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(54) Composition for use as a food or food supplement

(57) The present invention provides a formulated composition for use as a food or food supplement. The composition comprises a proteinaceous component selected from at least one protein, peptide, polypeptide, or a mixture thereof. The composition also includes an essential nutrient component which is at least one nutrient substance selected from a vitamin, mineral, trace element or mixture thereof. The proteinaceous component is present in an amount of from about  $1 \times 10^{-8}$  g to about 10 g per recommended daily allowance of at least one nutrient substance in the essential nutrient component.

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COMPOSITION FOR USE AS A FOOD OR FOOD SUPPLEMENT

The present invention relates to a composition for use as a food or food supplement, in particular a food supplement to enhance the lifestyle of men and women.

5 Since the beginning of recorded time there have been foods which were thought to be beneficial in various aspects of life. For example, certain foods were thought to increase the sexual potency of those who ate them. Even the ancient Gods had their own food called Ambrosia.

10 Nowadays, oysters and caviar are two of the most popular of such foods. Herbs from the Middle East are others. Rhinoceros horn yet another, as well as extracts of bulls testicles, the blood of young virile lions, to mention but 15 a few. There are also certain vitamins such as Vitamin E with its effect on the circulation. Furthermore, the root of ginseng has become very popular and has gained quite a reputation amongst health food users. Champagne, it has to be good, should also appear on a list of aphrodisiacs as 20 should certain fruits such as apricots, bananas, oranges and raspberries.

25 You are what you make of what you eat. After all his years of practice the inventor has to say that without doubt he subscribes to this theory. As a priority he began research

into a new product which would be a modern food supplement for use in enhancing the lifestyle of men and women, for example, those suffering especially from the stress and strain of modern life.

5

According to the inventor's surprising discovery, a food or food supplement, especially one with particular qualities for men and women, can be formulated by combining a proteinaceous component and an essential nutrient component 10 in particular amounts per se and in particular proportions.

Thus, in one aspect, the present invention provides a formulated composition for use as a food or food supplement, which composition comprises a proteinaceous 15 component comprising at least one protein, peptide, polypeptide, or amino acid and an essential nutrient component comprising at least one nutrient substance which is a vitamin, mineral or trace element, the proteinaceous component being present in an amount of from about  $1 \times 10^{-8}$  g 20 to about 10 g per recommended daily allowance of at least one nutrient substance in the essential nutrient component.

Preferably, the composition of the invention is in discrete portion form. Typically, such may be in the form of a 25 tablet, pill, lozenge or capsule. More preferably, the composition is in the form of a chewable, suckable, water-soluble or slow-release tablet or lozenge.

Alternatively, the composition of the invention may be in the form of a gum, a powder or a solution or suspension in a non-toxic liquid.

5. Thus, the composition may include one or more liquid or solid carriers, diluents or excipients. Alternatively or additionally, and more preferably, the composition may be contained within the shell of a capsule.

10 Typical such carriers etc. are well known. However, as a preferred example the composition of the invention may be formulated in solid form using a carrier etc. comprising maltodextrin.

15 In the composition of the invention the proteinaceous material preferably comprises at least one tissular extract of glands, organs, blood vessels, muscle, skin etc. More preferably, the proteinaceous material comprises at least one tissular extract obtained by purification e.g. by 20 filtration etc., of non-human animal tissue, both foetal and adult, of all types, but excluding bovine tissue.

25 The tissular extract for use in the composition of the invention may be prepared in any convenient manner which provides an extract suitable for human consumption. Preferably, however, the extract is prepared by mixing homogenised tissue material from sheep with homogenised tissue material from pigs. The mixture is then filtered

and purified to a degree making it fit for human consumption, after which it may be incorporated in a composition as defined herein. Alternatively, tissue material of one species may be introduced into another 5 species to result in the preparation of a specific protein within the host e.g. animal or yeast.

Alternatively, or additionally, the proteinaceous material used in the composition of the invention may be ribonucleic 10 acid (RNA) and/or adenosine triphosphate (ATP). Preferably the RNA is a naturally occurring RNA such as RNA in yeast or plant proteins and preferably the ATP is that obtained as a cell extract. Typically, the RNA may be used in an amount of from about 10 to about 50 mg, preferably about 15 25 mg, per RDA. Similarly, the ATP may be used in an amount of from about 1 to about 10 mg, preferably about 2 mg, per RDA.

The principle of preferred compositions according to the 20 invention which enhance lifestyle or well-being is that they comprise a food or food supplement. They are not a drug having a medicinal effect and were never formulated to be a drug.

25 Thus, for example, compositions in accordance with the invention may be formulated with the following lifestyle aspects in mind, namely:

Sexual potency

Skin tone and health  
Youthful vigour and vitality  
Control of prostate problems  
Control of menopause problems  
Control of rheumatism and arthritis  
Control of immune system problems  
Control of stress  
Improvement of mental function

Enhancement of heart function and circulation.

10

In preferred compositions I have put together a mixture of vitamins which are regarded as having some effect on say one's love life. At least they have been publicised as such and during my exhaustive consultations with many of my patients over nearly 30 years, I have found that those who were taking certain of the vitamins and other ingredients contained in the compositions of the invention all claimed that they felt better. Many said that it did seem to have a beneficial effect on lifestyle and well-being with concomitant beneficial effects on, for example, their love life. After all, to have a full and happy love life you have to feel good and energetic and that is what the compositions of this invention are designed to do by supplementing the body's nutrition.

20  
25

Amongst preferred constituents are:

Specially prepared nutritional proteins of the individual

tissues, for example, those known to be related to sexual problems. These include the glands, circulatory system and nervous system and are known to add to the potency of this health food supplement.

5

Vitamins; it is recommended that we all take additional vitamins. It seems that in spite of improvements in farming the food we eat does not generally contain as much of the vitamins that we need. This is very interesting 10 since vitamins are a very important part of nutrition, described in the dictionary as "any of a group of substances that are essential, in small quantities, for the normal functioning of metabolism in the body". They cannot usually be synthesised in the body but they occur naturally 15 in certain foods.

There are a great number of different vitamins. Each has a different property and important part to play in general 20 health. Vitamin A is vital to the health of the eyes, skin, bone, teeth and immune system. Currently, vitamin A is regarded as a valuable agent in preventing some of the degenerative diseases associated with ageing. It is regarded as assisting with the protection of the epithelial tissue (cellular tissue covering the whole of the body) 25 against malignant changes (i.e. cancer). It also prevents the decline in the function of the immune system.

Vitamin B complex is a large group of some eleven different

vitamins. These vitamins are water soluble which means they have to be replenished daily since the body does not store them. Stress for example speeds up our rate of use of the vital B vitamins, so the more stress we are subjected to in our daily lives the more it is necessary to replenish the supplies. The B vitamins help with the production of energy within the body. The symptoms of vitamin B deficiency include mental fatigue and confusion as well as loss of memory. Specifically, the B vitamins are made up of:

15 Thiamine - vitamin B - important in energy production as well as the condition of the skin and finger nails.

Niacin - vitamins B<sub>3</sub> - essential for the body's total metabolism, deficiencies can lead to poor skin, digestive and nervous problems.

20 Pyridoxine - vitamin B<sub>6</sub> - important in the metabolism of fat, proteins and carbohydrates. Influences energy levels particularly to the heart, brain and liver. Sometimes this vitamin is used to help people with menstrual tension, cramps and depression.

25 Folic Acid - important for the healthy function of the nervous system, hair, immune system, mucous

membranes and liver.

5 Cobalamin - vital for the health of the red blood cells and nervous system. More is required as we get older because the body does not utilise it so easily.

#### Pantothenic Acid

10 - helps to fight against the effects of stress. It strengthens the adrenal glands and immune system. It is also been used to help people with arthritic diseases.

15 Biotin - important for the health of the digestive tract, the skin, hair, adrenal glands, thyroid gland, as well as the reproductive system.

20 Choline - improves the brain and nervous system especially in older people.

Inositol - helps with the brain and nervous system.

#### Para-aminobenzoic Acid

25 - thought to affect the hair including the colour.

Vitamin C - this vitamin is a major antioxidant. It

5 prevents the formation of free radicals (biological substances which cause havoc to the body). It is vital to the health of the skin, bones, teeth, blood vessels, tendons and cartilage. The immune system depends upon supplies of vitamin C as does the vital connective tissues. Without this vitamin the body is more likely to suffer infections, poor skin, fatigue, bleeding problems, heart disease, and possibly some 10 forms of cancer.

15 Vitamin D - often called the sunshine vitamin because the skin manufactures this vitamin when exposed to the sun. It helps with the calcium metabolism and so effects the health of the bones.

20 Vitamin E - along with vitamin C this is regarded as the vitamin of youth. Respected as having an influence on sexual function and fertility. It also acts as a strong antioxidant fighting free radicals in the system.

25 Preferred levels of vitamins per daily amount of composition may be as follows:

Vitamin A - about 0.5 to about 1.0 mg

Vitamin B<sub>1</sub> - about 0.5 to about 1.5 mg

Vitamin B<sub>2</sub> - about 0.5 to about 1.7 mg

Niacin - about 15.0 to about 19.0 mg

Vitamin B<sub>6</sub> - about 1.0 to about 2.2. mg

5      Pantothenic Acid - about 5.0 to about 7.0 mg

Biotin - about 150.0 to about 200.0 mcg

Folic Acid - about 300.0 to about 400.0 mcg

Vitamin B<sub>12</sub> - about 2.0 to about 3.0 mcg

Vitamin C - about 30.0 to about 60.0 mg

10     Vitamin D<sub>3</sub> - about 2.5 to about 10.0 mcg

Vitamin E - about 5.0 to about 20.0 mg

As well as a daily intake of all the necessary vitamins the human body also needs important minerals. These are:

15

Calcium - as well as being vital for the health and development of the bones of the body, calcium also affects the nerves and muscles.

Very necessary for women during the

20

menopause to avoid bone problems. Older people generally are prone to developing brittle bones which in turn are prone to easy breakage or fracture.

25

Chromium - a vital mineral for the utilisation of blood sugars to produce energy. This mineral works closely with the body's natural insulin.

Iodine - this mineral works on the thyroid gland helping to keep it in balance so improving the overall health of the body and correct metabolism of fats as well as temperature regulation.

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Iron - this mineral is important to the structure and function of the haemoglobin, which is a vital part of the red blood cells that carry oxygen around the body. Without iron the blood will not carry oxygen and the result is anaemia and fatigue. Older people are more prone to this condition and it is thought by many to have a direct influence on impotence and sexual problems.

20

Magnesium - most cell functions are controlled by this mineral. When this vital mineral is missing or not available in sufficient quantities premature ageing and illness occur.

25

Potassium - the muscles of the body depend upon this mineral for their general health and strength.

Selenium - this mineral is a powerful antioxidant and helps to detoxify the system. It is thought

to help against cancer and heart disease as well as helping the body fight external pollution.

5. Zinc - this mineral is important to the health of the prostate, sex glands and organs, the immune system and to the metabolism generally.

10 Boron - this mineral is beneficial in the prevention of osteoporosis.

Up to the present time, the authorities of various countries, as well as International bodies, have attempted 15 to define in various ways the minimum daily human requirements of the above-listed trace elements and mineral elements. Thus, in some countries such as the UK, there is a recommended daily dietary allowance (RDA) figure for certain of the listed elements, whereas for other elements 20 no such UK RDA figure has so far been given. Furthermore, the RDA figure for any particular element can vary from country to country.

Nevertheless, the National Academy of Sciences in the USA 25 has sought to define a range of Adequate Daily Dietary Intake (ADDI) for each necessary element, and the figures given below are taken from "Recommended Dietary Allowances" Ninth Revised Edition, 1980, National Academy of Sciences

Washington, DC. However, it is to be understood that where for any particular country an RDA figure is lower or higher, that figure may be adopted as necessary or desired within the limitations of the invention as defined herein.

5. In the UK the only RDA figures given for the above-listed elements are as follows:

Calcium - about 500 mg

Iron - about 12 mg

10 Iodine - about 140 mcg.

and the remaining elements are not assigned an "official" RDA. Notwithstanding that lack of information in the UK preferred minimum levels taken from the US ADDI ranges can

15 be stated as follows:

Calcium - about 800 mg

Phosphorous - about 800 mg

Magnesium - about 300 mg, for example, about 300 to  
20 about 400 mg, typically about 350 mg

Iron - about 18 mg

Iodine - about 150 mcg

Fluorine - about 1.5 mg, for example, about 1.5 to  
about 4.0 mg

25 Zinc - about 15.0 mg

Copper - from about 2.0 to about 3.0 mg

Manganese - from about 2.5 to about 5.0 mg, typically  
about 4 mg

Selenium - about 50 mcg, for example, about 50 to about  
200 mcg, typically about 60 mcg  
Chromium - about 50 mcg, for example, about 50 to about  
200 mcg, typically about 60 mcg  
5. Boron - about 1 to about 5 mg, preferably about 2 mg  
Molybdenum - about 150 mcg, for example, about 150 to  
about 500 mcg.

10 In Denmark and other Scandinavian countries there is a more  
recent tendency to set the figures for selenium, chromium  
and molybdenum higher than the minimum figures given above  
although within the above ranges. For example, in Denmark  
it is currently recommended that the typical daily amount  
of selenium should be about 125 mcg and that the  
15 corresponding figures for chromium and molybdenum should be  
about 125 mcg and about 250 mcg respectively.

20 In a food supplement for people who want to improve their  
skin chromium, the amino acids and *Aquisetum Arnense*, which  
is a natural astringent and also a diuretic which helps the  
skin to rid itself of toxins and remain youthful, are  
useful. In addition, the Fruit Acids can help reduce  
wrinkles and fine lines.

25 In the control of the menopause, boron which is a trace  
mineral found in plants is beneficial in the prevention of  
post-menopausal osteoporosis. It is also beneficial in the  
treatment of arthritis and builds muscle.

In the control of immune system problems, Kelp can help with the thyroid function and Astragalus, which is an ancient chinese herb can help with the immune system and 5 also with the fight against cancer. In addition, Bee Pollen is useful.

In the control of stress, the herb myo-inositol can help strengthen the nervous system and lecithin can help the 10 nervous system.

In the improvement of mental function Ginkgo Biloba which is an ancient Chinese herb may be useful, as well as Kelp and Bee Pollen. Ginkgo Biloba which comes from the world's 15 oldest trees may also be useful in rejuvenation or youth products and as a general elixir. It also helps with lung complaints. Bee Pollen which helps regenerate the body generally also helps with problems involving the prostate, with arthritis and with heart problems.

20 In the enhancement of sexual potency, Guarana and Damiana, two natural herbs occurring in Mexico and Brazil are useful. Daminana has aphrodisiac properties and Guarana has stimulatory properties.

25 Within other contexts:

Valerian can help with insomnia and hysteria. It also

helps with menstrual problems, general anxiety and nervousness.

5 L-Carnitine can help protect the body against cardiovascular disease and against muscular degeneration.

10 Other important nutritional substances include enzymes which are special proteins each of which accelerates the rate of a specific chemical reaction without taking part in it. Without enzymes life could not exist. They often work together with vitamins and/or minerals.

15 Amino acids comprise essential and non-essential amino acids. Essential amino acids cannot be made by the body and have to be taken from the food we eat. Non-essential amino acids can be made by the body from existing essential amino acids.

20 The essential amino acids are:

isoleucine - which is essential for the formulation of haemoglobin

25 phenylalanine - which enhances learning and memory

leucine - which helps with the healing of broken bones

threonine - which helps with liver function and in building up the immune system.

5 lysine - which inhibits the growth of viruses and aids the adsorption of calcium.

tryptophan - which has been proposed for the treatment of senile dementia

10 methionine - which helps to prevent hair loss and is an anti-fatigue agent, and

valine - which is used in the treatment of severe amino acid deficiencies.

15

The non-essential amino acids include:

alanine - which is used by the body to fuel the nervous system and brain. It also builds up the 20 immune system

glycine - which also helps to build up the immune system and helps with the management of hypo-acidity

25 arginine - which stimulates the release of growth hormone. It also helps healing and to combat physical and mental fatigue. In addition, it is used in the treatment of liver disorders

proline - which is important for the proper function of the joints and tendons, it also helps the heart muscle and is a major constituent of collagen

5

aspartic acid - which increases resistance to fatigue. It also helps with the formation of RNA and builds up the immune system

10

serine - which helps with liver and muscle function. It also builds up the immune system

15

cysteine - which helps with hair growth. It also helps protect the brain and liver from alcohol and other damage. It helps to detoxify the body

20

tyrosine - which plays an important part in helping the function of the pituitary gland, as well as adrenal and thyroid gland function. It also helps to generate the production of red and white cells

25

glutamic acid - which is important for brain metabolism. It helps the brain to function, it increases blood sugar levels and helps with the management of hypo-glycaemia.

One or more of all of these vital constituents are preferably to be found in the composition of the invention.

Furthermore, the composition preferably may include extracts of herbs known to have properties relating say to sexual potency including the herb Damiana found in Mexico, as well as extract of evening primrose oil and ginseng root 5 regarded for a long time as having aphrodisiacal properties.

In addition, the composition of the invention may include other ingredients which make it more acceptable for 10 consumption. For example, it may include one or more colouring agents for visual effect, one or more flavouring agents such as vanilla for organoleptic effect, as well as flavour enhancers. Also, ingredients with "health food" overtones may be included such as wheat germ.

15

The compositions of the invention will now be described in more detail with reference to the following specific Examples.

20

Example 1

A composition in accordance with the invention was prepared according to the following formulation:

25	<u>Ingredient</u>	<u>Amount per suckable Tablet</u>	<u>%RDA</u>
	Maltodextrin	1154 mg	
	Wheat Germ	250 mg	
	Amino Acid Complex*	200 mg	

	Ginseng Extract 461	125 mg	
	Silica Dioxide	125 mg	
	Acerola Powder	100 mg	
	Damiana Extract 4.1	75 mg	
5	Vitamin C	33 mg	100
	Magnesium Stearate	25 mg	
	Vitamin E	15 mg	
	Vanilla	10 mg	
	Magnesium Oxide	10 mg	
10	Zinc Gluconate	58 mg	
	Manganese Sulphate	6.25 mg	
	Calcium Pantothenate	7 mg	
	Vitamin A Acetate	750 mcg	100
	Folic Acid	300 mcg	100
15	Tissular Proteins	10 mcg	
	Vitamin D	2.5 mcg	100
	Vitamin B <sub>12</sub>	2 mcg	100
20	<b>Total:</b>	<b>2194.4 mg</b>	

	<u>*Amino Acid Complex</u>	<u>Amount per suckable Tablet</u>
25	Glycine	41.80 mg
	Proline	27.58 mg
	Hydroxyproline	24.34 mg
	Glutamic Acid	20.00 mg
30	Alanine	17.56 mg
	Arginine	15.78 mg

	Aspartic Acid	11.58 mg
	Lysine	7.88 mg
	Serine	6.96 mg
	Leucine	5.74 mg
5	Valine	4.38 mg
	Phenylalanine	3.98 mg
	Threonine	3.76 mg
	Isoleucine	2.96 mg
	Hydroxylysine	1.72 mg
10	Methionine	1.56 mg
	Histidine	1.38 mg
	Tyrosine	0.52 mg
		=====
	<b>Total:</b>	<b>199.48 mg</b>

15

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The above formulation was prepared in discrete form as 2 gram (nominal size) suckable tablets with a pleasant vanilla taste and of extremely useful nutritional value.

20

Example 2

A composition in accordance with the invention can be prepared according to the following formulation:

25

	<u>Ingredient</u>	<u>Parts by Weight</u>
	Tissular extract of blood vessels, testicle, prostate, erectile tissue, pituitary gland and neurovascular system (connective tissue, skin, blood	) ) ) ) 0.01
30		

20	vessels, nerves)	)	
	Vitamin mixture (all the B vitamins, folic acid, vitamin C and vitamin D)	)	50
5	Flavouring		10
	Excipient such as maltodextrin or maltodextrin and wheat germ (4:1 by weight)	) Balance to 100% unit dose weight	

10 The above formulation was prepared in discrete form as 2 gram chewable/suckable tablets.

Example 3

15 A composition according to Example 2 can be prepared with the addition of the following:

	<u>Ingredient</u>	<u>Parts by Weight</u>
20	Ginseng	125
	Damiana extract	33
	Acerola	75

Example 4

25 A composition according to Example 2 can be prepared with the addition of the following:

	<u>Ingredient</u>	<u>Parts by Weight</u>
30	Essential and non-essential amino acids	200

Example 5

A composition according to Example 3 can be prepared with the addition of the following:

5

	<u>Ingredient</u>	<u>Parts by Weight</u>
	Essential and non-essential amino acids	200
	Zinc Salt	60
	Magnesium Salt	25
10	Calcium Salt	10
	Silica Salt	125

Example 6

15 A composition according to Example 5 can be prepared with the addition of the following:

	<u>Ingredient</u>	<u>Parts by Weight</u>
	Selenium	0.1

20

Example 7

25 A composition according to any one of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of ovary, pituitary, thyroid, blood vessels, liver and neurovascular system.

Example 8

5 A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of skin, connective tissue, blood vessels and muscle.

Example 9

10 A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of prostate and blood vessels.

Example 10

15

A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of main brain, hypothalamus, cerebellum and diencephalon.

20

Example 11

25 A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of liver, colon, stomach and small intestine.

Example 12

5 A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of spleen, thymus, bone marrow, tonsil and sinus.

Example 13

10 A composition according to any of Examples 2 to 6 can be prepared by replacing the stated tissular extract with a tissular extract of cartilage, connective tissue, blood vessels and muscle.

Example 14

A composition in accordance with the invention, and suitable for encapsulation, was prepared according to the following formulation:

20

<u>Ingredient</u>	<u>Amount per Capsule</u>	<u>U.S.%RDA</u>
Vitamin C (Ascorbic Acid)	75 mg	125
Vitamin A (Acetate)	375 iu	37.5
Vitamin D (Cholecalciferol)	10 iu	5
25 Folic Acid	300 mcg	75
Vitamin B12 (Cyanocobalamin)	5 mcg	85
Zinc (as Amino Acid Chelate)	8 mg	55
Manganese (as Amino Acid Chelate)	2 mg	

Selenium (as Methionine)	15 mcg	
Calcium (as Carbonate)	90 mg	10

Other Ingredients

5 Damiana Powder	75 mg
Ribonucleic Acid	25 mg
Soy Protein Isolate	25 mg
Adenosine Triphosphate	2 mg

10

Example 15

A composition believed to be especially useful in the improvement of mental function, and suitable for encapsulation, was prepared according to the following 15 formulation:

<u>Ingredient</u>	<u>Amount per Capsule</u>
Vitamin A	750 mcg
Vitamin B1	5 mg
20 Vitamin B2	1.6 mg
Vitamin B3	18 mg
Vitamin B5	5 mg
Vitamin B6	2 mg
Vitamin B12	2 mcg
25 Vitamin C	30 mg
Vitamin D3	2.5 mcg
Vitamin E	20 mg
Folic Acid	300 mcg

Biotin	30 mcg
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Amino Acids

	Alanine	7.6 mg
5	Arginine	13.2 mg
	Aspartic Acid	20.4 mg
	Cysteine	2 mg
	Glutamic Acid	33.6 mg
	Glycine	7.2 mg
10	Histidine	4.4 mg
	Isoleucine	8.4 mg
	Leucine	14.4 mg
	Lysine	10.8 mg
	Methionine	2.4 mg
15	Phenylalanine	9.2 mg
	Proline	8.8 mg
	Serine	9.2 mg
	Threonine	6.4 mg
	Tyrosine	6.4 mg
20	Valine	8.8 mg

Other Ingredients

	Lecithin	75 mg
	Bee Pollen	50 mg
25	Ribonucleic Acid	25 mg
	Ginkgo Biloba (as 8:1 extract)	25 mg
	Adenosine Triphosphate	2 mg

Example 16

A composition believed to be useful in the enhancement of heart function and circulation, and suitable for encapsulation, was prepared according to the following formulation:

<u>Ingredient</u>	<u>Amount per Capsule</u>
Vitamin E	20 mg
10 Selenium (as Amino Acid Chelate)	50 mcg
Magnesium (as Amino Acid Chelate)	10 mg

Amino Acids

Alanine	7.6 mg
15 Arginine	13.2 mg
Aspartic Acid	20.4 mg
Cysteine	2 mg
Glutamic Acid	33.6 mg
Glycine	7.2 mg
20 Histidine	4.4 mg
Isoleucine	8.4 mg
Leucine	14.4 mg
Lysine	10.8 mg
Methionine	2.4 mg
25 Phenylalanine	9.2 mg
Proline	8.8 mg
Serine	9.2 mg
Threonine	6.4 mg

Tyrosine	6.4 mg
Valine	8.8 mg

Other Ingredients

5	Bee Pollen	50 mg
	L-Carnitine	50 mg
	Omega 3 Oil (Fish Oil Powder)	50 mg
	Ribonucleic Acid	25 mg
	Adenosine Triphosphate	2 mg

10

Example 17

15 A composition believed to be useful in the control of prostate problems and suitable for encapsulation was prepared according to the following formulation:

	<u>Ingredient</u>	<u>Amount per Capsule</u>
	Zinc (as Amino Acid Chelate)	20 mg
	Magnesium (as Amino Acid Chelate)	10 mg
20	Calcium (as Carbonate)	50 mg

Other Ingredients

25	L-Histidine	75 mg
	Bee Pollen	50 mg
	Ribonucleic Acid	25 mg
	Adenosine Triphosphate	2 mg
	Parsley	50 mg

Example 18

A composition believed to be useful in the control of stress and suitable for encapsulation was prepared  
 5. according to be following formulation:

<u>Ingredient</u>	<u>Amount per Capsule</u>
Vitamin A	750 mcg
Vitamin B1	5 mg
10 Vitamin B2	1.6 mg
Vitamin B3	18 mg
Vitamin B5	5 mg
Vitamin B6	2 mg
Vitamin B12	2 mcg
15 Vitamin C	30 mg
Vitamin D3	2.5 mcg
Vitamin E	20 mg
Folic Acid	300 mcg
Biotin	30 mcg
20 Calcium (as Amino Acid Chelate)	9 mg
Magnesium (as Amino Acid Chelate)	2.5 mg

Amino Acids

Alanine	3.8 mg
25 Arginine	6.6 mg
Aspartic Acid	10.2 mg
Cysteine	1 mg
Glutamic Acid	16.8 mg

	Glycine	3.6 mg
	Histidine	2.2 mg
	Isoleucine	4.2 mg
	Leucine	7.2 mg
5	Lysine	5.4 mg
	Methionine	1.2 mg
	Phenylalanine	4.6 mg
	Proline	4.2 mg
	Serine	4.6 mg
10	Threonine	2.3 mg
	Tyrosine	3.2 mg
	Valine	4.4 mg

Other Ingredients

15	Choline Bitartrate	50 mg
	Lecithin	50 mg
	Myo-Inositol	50 mg
	Valerian (as 4:1 Extract)	25 mg
	Ribonucleic Acid	25 mg
20	Adenosine Triphosphate	2 mg

Example 19

25 A composition believed to be useful in maintaining a youthful appearance and temperament, and suitable for encapsulation, was prepared according to the following formulation:

<u>Ingredient</u>	<u>Amount per Capsule</u>
Vitamin A	750 mcg
Vitamin B1	5 mg
Vitamin B2	1.6 mg
5 Vitamin B3	18 mg
Vitamin B5	5 mg
Vitamin B6	2 mg
Vitamin B12	2 mcg
Vitamin C	30 mg
10 Vitamin D3	2.5 mcg
Vitamin E	20 mg
Folic Acid	300 mcg
Biotin	30 mcg
Zinc (as Amino Acid Chelate)	15 mg
15 Selenium (as Amino Acid Chelate)	100 mcg
Calcium Pantothenate	11 mg
Iron (as Amino Acid Chelate)	12 mg

#### Amino Acids

20 Alanine	7.6 mg
Arginine	13.2 mg
Aspartic Acid	20.4 mg
Cysteine	2 mg
Glutamic Acid	33.6 mg
25 Glycine	7.2 mg
Histidine	4.4 mg
Isoleucine	8.4 mg
Leucine	14.4 mg

	Lysine	10.8 mg
	Methionine	2.4 mg
	Phenylalanine	9.2 mg
	Proline	8.8 mg
5	Serine	9.2 mg
	Threonine	6.4 mg
	Tyrosine	6.4 mg
	Valine	8.8 mg

10 Other Ingredients

	Ginkgo Biloba (as 8:1 extract)	25 mg
	Bee Pollen	50 mg
	Malic Acid	25 mg
	Citric Acid	25 mg
15	Ribonucleic Acid	25 mg
	Adenosine Triphosphate	2 mg

Example 20

20 A composition believed to be useful in the control of rheumatism and arthritis, and suitable for encapsulation, was prepared according to the following formulation:

	<u>Ingredient</u>	<u>Amount per Capsule</u>
25	Vitamin A	750 mcg
	Vitamin B1	5 mg
	Vitamin B2	1.6 mg
	Vitamin B3	18 mg

	Vitamin B5	5 mg
	Vitamin B6	2 mg
	Vitamin B12	2 mcg
	Vitamin C	30 mg
5	Vitamin D3	2.5 mcg
	Vitamin E	20 mg
	Folic Acid	300 mcg
	Biotin	30 mcg
	Zinc (as Amino Acid Chelate)	15 mg
10	Selenium (as Amino Acid Chelate)	50 mcg
	Calcium (as Amino Acid Chelate)	13 mg
	Boron (as Amino Acid Chelate)	2 mg

Amino Acids

15	Alanine	3.8 mg
	Arginine	6.6 mg
	Aspartic Acid	10.2 mg
	Cysteine	1 mg
	Glutamic Acid	16.8 mg
20	Glycine	3.6 mg
	Histidine	2.2 mg
	Isoleucine	4.2 mg
	Leucine	7.2 mg
	Lysine	5.4 mg
25	Methionine	1.1 mg
	Phenylalanine	4.6 mg
	Proline	4.4 mg
	Serine	4.6 mg

Threonine	3.2 mg
Tyrosine	3.2 mg
Valine	4.4 mg

5      Other Ingredients

Ribonucleic Acid	25 mg
Adenosine Triphosphate	2 mg
Bee Pollen	10 mg

10

Example 21

A composition believed to be useful in the control of immune system problems, and suitable for encapsulation, was prepared according to the following formulation:

15

	<u>Ingredient</u>	<u>Amount per Capsule</u>
<u>Amino Acids</u>		
	Alanine	7.6 mg
	Arginine	13.2 mg
20	Aspartic Acid	20.4 mg
	Cysteine	2.0 mg
	Glutamic Acid	33.6 mg
	Glycine	7.2 mg
	Histidine	4.4 mg
25	Isoleucine	8.4 mg
	Leucine	14.4 mg
	Lysine	10.8 mg
	Methionine	2.4 mg

	Phenylalanine	9.2 mg
	Proline	8.8 mg
	Serine	9.2 mg
	Threonine	6.4 mg
5	Tyrosine	6.4 mg
	Valine	8.8 mg

Other Ingredients

	Bee Pollen	50 mg
10	Astragalus	50 mg
	Kelp	50 mg
	Ribonucleic Acid	25 mg
	Adenosine Triphosphate	2 mg

15

Example 22

A composition believed to be useful in the control of menopause problems, and suitable for encapsulation, was prepared according to the following formulation:

20

	<u>Ingredient</u>	<u>Amount per Capsule</u>
	Vitamin E	20 mg
	Magnesium Oxide	50 mg
	Selenium (as Amino Acid Chelate)	50 mcg
25	Boron (as Amino Acid Chelate)	2 mg

Amino Acids

Alanine	7.6 mg
---------	--------

	Arginine	13.2 mg
	Aspartic Acid	20.4 mg
	Cysteine	2.0 mg
	Glutamic Acid	33.6 mg
5	Glycine	7.2 mg
	Histidine	4.4 mg
	Isoleucine	8.4 mg
	Leucine	14.4 mg
	Lysine	10.8 mg
10	Methionine	2.4 mg
	Phenylalanine	9.2 mg
	Proline	8.8 mg
	Serine	9.2 mg
	Threonine	6.4 mg
15	Tyrosine	6.4 mg
	Valine	8.8 mg

	<u>Other Ingredients</u>	<u>Amount</u>
	Ribonucleic Acid	25 mg
20	Adenosine Triphosphate	2 mg

Example 23

25 A composition in accordance with the invention believed to be useful in the control of digestive problems, and suitable for encapsulation, was prepared according to the following formulation:

<u>Ingredients</u>	<u>Amount per Capsule</u>
Vitamin C (Ascorbic Acid)	30 mg
Vitamin A (Acetate)	375 iu
Vitamin E (Di-alpha)	20 mg
5 Calcium (as Amino Acid Chelate)	2 mg
Magnesium (as Amino Acid Chelate)	1 mg
Manganese (as Amino Acid Chelate)	1 mg
Zinc (as Amino Acid Chelate)	1 mg
Chromium (as Amino Acid Chelate)	5 mcg
10 Selenium (as Amino Acid Chelate)	5 mcg
Iron (as Amino Acid Chelate)	1 mg

Amino Acids

Alanine	1.9 mg
15 Arginine	3.3 mg
Aspartic Acid	5.1 mg
Cysteine	0.5 mg
Glutamic Acid	8.4 mg
Glycine	1.8 mg
20 Histidine	1.1 mg
Isoleucine	2.1 mg
Leucine	3.6 mg
Lysine	2.7 mg
Methionine	0.6 mg
25 Phenylalanine	2.3 mg
Proline	2.2 mg
Serine	2.3 mg
Threonine	1.6 mg

Tyrosine	1.6 mg
Valine	2.2 mg
lefthand panel	

5      Other Ingredients

Equisetum Arvense	200 mg
Fucus	150 mg
Ribonucleic Acid	25 mg
Adenosine Triphosphate	2 mg

10

Example 24

A composition in accordance with the invention believed to be useful in the control of digestive problems and suitable 15 for encapsulation, was prepared according to the following formulation:

<u>Ingredients</u>	<u>Amount per Capsule</u>
Calcium Pantothenate	11 mg

20

Amino Acids

Isoleucine	90 mg
Leucine	90 mg
Valine	90 mg

25

Other Ingredients

Fucus (as 5:1 Extract)	250 mg
Parsley (as 4:1 Extract)	200 mg

Bee Pollen	50 mg
Ribonucleic Acid	25 mg
Charcoal	125 mg
Adenosine Triphosphate	2 mg

5

Example 25

A composition in accordance with the invention believed to be useful in the control of weight problems i.e. 10 "slimming", and suitable for encapsulation was prepared according to the following formulation:

<u>Ingredient</u>	<u>Amount per Capsule</u>	<u>U.S.%RDA</u>
Vitamin A	500 mcg	62
15 Vitamin B1 (Thiamine HCl)	1 mg	71
Vitamin B2 (Riboflavin)	1 mg	62
Vitamin B3 (Nicotinamide)	10 mg	55
Vitamin B5 (as Calcium Pantothenate)	6 mg	
Vitamin B6 (Pyridoxine HCl)	2 mg	
20 Vitamin B12 (Cyanocobalamin)	2 mcg	200
Folic Acid	200 mcg	100
Biotin	30 mcg	
Vitamin C	20 mg	33
Vitamin D	10 iu	200
25 Vitamin E (Dl-Alpha)	10 mg	100
Calcium	50 mg	6
Magnesium	25 mg	8
Iron	4 mg	7

Copper	200 mcg	
Zinc	1.5 mg	10
Iodine	50 mcg	33

5. Other Ingredients

Beet Fibre	100 mg
Cellulose Fibre	100 mg
Psyllium Fibre	100 mg
Ribonucleic Acid	25 mg
10 Adenosine Triphosphate	2 mg

It is to be understood that the invention is not limited to the specific details given above and numerous variations and modifications may be made within the spirit and scope 15 of the claims which follow.

CLAIMS

1. A formulated composition for use as a food or food supplement, which composition comprises a proteinaceous component comprising at least one protein, peptide, polypeptide or amino acid and an essential nutrient component comprising at least one nutrient substance which is a vitamin, mineral or trace element, the proteinaceous component being present in an amount of from about  $1 \times 10^{-8}$  g to about 10g per recommended daily allowance of at least one nutrient substance in the essential nutrient component.  
5
- 10 2. A composition according to claim 1, which is discrete portion form.
- 15 3. A composition according to claim 2, which is in the form of a tablet, lozenge or capsule.
- 20 4. A composition according to claim 3, which is in the form of a chewable, suckable, water-soluble tablet or slow-release tablet or lozenge.
5. A composition according to claim 1, which is in the form of a gum, a powder or a solution or suspension in a non-toxic liquid.

6. A composition according to any one of the preceding claims, wherein the proteinaceous material comprises at least one tissular extract of glands, organs, blood vessels, muscle or skin.

5

7. A composition according to claim 6, wherein the proteinaceous material comprises at least one tissular extract obtained by filtration or other purification of non-human animal tissue, both foetal and adult, of any type, except bovine tissue.

10

8. A composition according to any one of the preceding claims, wherein the proteinaceous material comprises ribonucleic acid (RNA) and/or adenosine triphosphate (ATP).

15

9. A composition according to claim 8, wherein any RNA is present in an amount of from 10 to 50 mg per RDA and any ATP is present in an amount of from 1 to 10 mg per RDA.

20

10. A composition according to any one of the preceding claims, which includes one or more of vitamin A, vitamin B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>6</sub>, B<sub>12</sub>, folic acid, pantothenic acid, biotin, choline, inositol, para-aminobenzoic acid, vitamin C, vitamin D or vitamin E.

25

11. A composition according to claim 10, which contains one or more of the following in the given daily allowance:

Vitamin A - about 0.5 to about 1.0 mg  
Vitamin B<sub>1</sub> - about 0.5 to about 1.5 mg  
Vitamin B<sub>2</sub> - about 0.5 to about 1.7 mg  
Niacin - about 15.0 to about 19.0 mg  
5 Vitamin B<sub>6</sub> - about 1.0 to about 2.2. mg  
Pantothenic Acid - about 5.0 to about 7.0 mg  
Biotin - about 150.0 to about 200.0 mcg  
Folic Acid - about 300.0 to about 400.0 mcg  
Vitamin B<sub>12</sub> - about 2.0 to about 3.0 mcg  
10 Vitamin C - about 30.0 to about 60.0 mg  
Vitamin D<sub>3</sub> - about 2.5 to about 10.0 mcg  
Vitamin E - about 5.0 to about 20.0 mg

12. A composition according to any one of the preceding  
15 claims, which includes one or more of calcium, chromium,  
iodine, iron, magnesium, potassium, selenium, zinc or  
boron.

13. A composition according to any one of the preceding  
20 claims, which contains one or more of the following in the  
given daily allowance:

Calcium - about 800 mg  
Phosphorous - about 800 mg  
25 Magnesium - about 300 mg, for example, about 300 to  
about 400 mg, typically about 350 mg  
Iron - about 18 mg  
Iodine - about 150 mcg

Fluorine - about 1.5 mg, for example, about 1.5 to  
about 4.0 mg

Zinc - about 15.0 mg

Copper - from about 2.0 to about 3.0 mg

5 Manganese - from about 2.5 to about 5.0 mg, typically  
about 4 mg

Selenium - about 50 mcg, for example, about 50 to about  
200 mcg, typically about 60 mcg

10 Chromium - about 50 mcg, for example, about 50 to about  
200 mcg, typically about 60 mcg

Boron - about 1 to about 5 mg, preferably about 2  
mg.

Molybdenum - about 150 mcg, for example, about 150 to  
about 500 mcg.

15

14. A composition according to any one of the preceding  
claims, which includes one or more enzymes.

20

15. A composition according to any one of the preceding  
claims, which includes one or more amino acids.

25

16. A composition according to claim 13, wherein the amino  
acid or acids are essential amino acids and comprise one or  
more of isoleucine, phenylalanine, leucine, threonine,  
lysine, tryptophan, methionine and valine.

17. A composition according to claim 13, wherein the amino  
acid or acids are non-essential amino acids and comprise

one or more of alanine, glycine, arginine, proline, aspartic acid, serine, cysteine, tyrosine and glutamic acid.

5 18. A composition according to any one of the preceding claims, wherein the total content of proteinaceous component is no more than about 200 mg per RDA of at least one nutrient substance in the nutrient component.

10 19. A composition according to any one of the preceding claims in discrete portion form of about 500 to about 2000mg.

15 20. A composition according to any one of the preceding claims, which includes extracts of herbs such as Damiana, Aquisetum Arnense, Ginkgo Biloba, Bee Pollen, Fruit Acids, Guarana, Kelp, Astragalus, Myo-Inositol, Lecithin, Valerian, L-Carnitine, evening primrose oil and ginseng root.

20 21. A composition according to claim 1, substantially as hereinbefore described.

25 22. A composition for use as a food or food supplement substantially as hereinbefore described with reference to any one of the specific Examples.

specs/132sp

## Relevant Technical Fields

(i) UK Cl (Ed.1) A2B: BMDE1; BMDE9 (part search of BMDE9 only)

(ii) Int Cl (Ed.5) A23L

Search Examiner  
B J GARDNERDate of completion of Search  
23 SEPTEMBER 1993

## Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant  
following a search in respect of  
Claims :-  
1 TO 22

(ii) None

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A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X	US 5002780 (CAOLA KOZMETIKAI ES) See part examples	1 at least
X	US 4973467 (NATROL INC) See part examples	1 at least
X	US 4499076 (AJINOMOTO CO INC) See part examples and claims	1 at least
X	US 4237118 (HOWARD) See whole document	1 at least
X	Natures Best No 13 1992-3 page 56, 57	1 at least
X	Cantassium 1991 cat page 7	1 at least

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